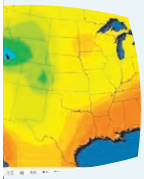


ISSUE 13 | Winter | 2015-2016

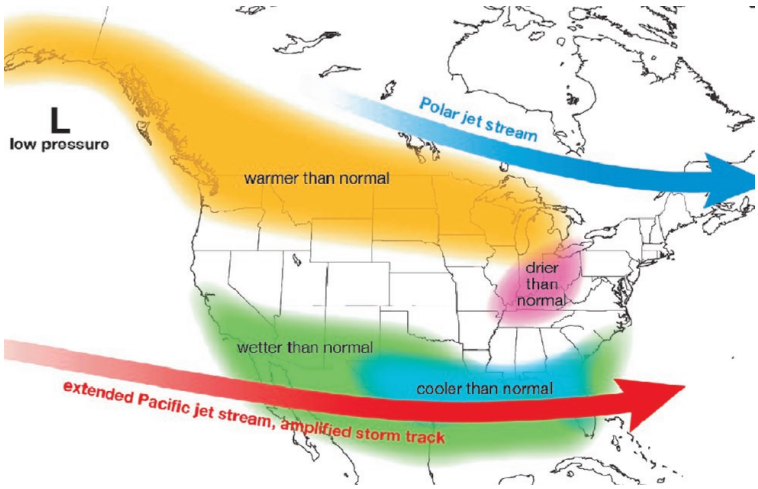
Tallahassee topics

NEWS AND NOTES FROM YOUR LOCAL NATIONAL WEATHER SERVICE OFFICE.

The National Weather Service (NWS) office in Tallahassee, FL provides weather, hydrologic, and climate forecasts and warnings for Southeast Alabama, Southwest & South Central Georgia, the Florida Panhandle and Big Bend, and the adjacent Gulf of Mexico coastal waters. Our primary mission is the protection of life and property and the enhancement of the local economy.

Local El Niño Impacts

By Kelly Godsey and Mark Wool



El Niño Basics

El Niño is a pronounced warming of the waters of the equatorial Pacific Ocean that occurs on average every 2 to 7 years. The ongoing El Niño is the strongest on record. The phenomenon can have far-reaching impacts across the globe. The Southeast U.S. is one area where El Niño's impacts can be significant due to a more pronounced jet stream across the region. This typically results in more storm systems tracking across the Deep South with wetter conditions the most reliable result.

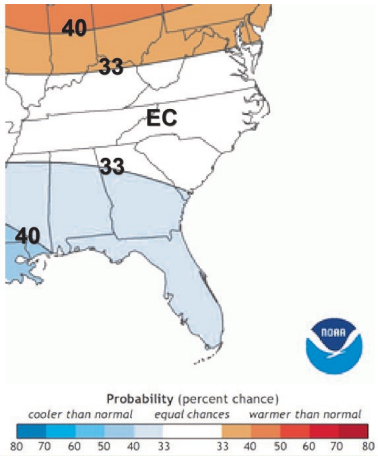
Local Expected Impacts

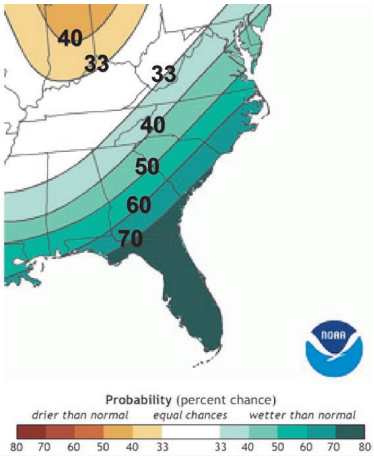
There is a high degree of confidence in wetter than normal conditions through Spring, which will mean an increased threat for areal and riverine flooding for our local area.

While more systems will impact the Gulf Coast region, the severe weather threat will depend on each individual system's storm track. Unlike across peninsular Florida, there is NOT an appreciable uptick in severe weather across our region during El Niño years.

Cooler than normal daytime temperatures are typical during El Niño years due to increased clouds and precipitation, but "arctic" outbreaks of cold weather are less likely (but still possible). This typical El Niño temperature pattern may not kick in until after December this time around as the latest monthly outlook from the Climate Prediction Center shows high confidence that we will see a continuation of recent above normal temperatures.

(Story continued on page 3)





Employee Spotlight: *Claudia Jeanie McDermott*

Meteorologist Intern since 2013

By Katie Moore & Jeanie McDermott

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Q: What sparked your interest in meteorology?

A: Growing up in the Midwest, severe weather was very common in the spring and late winter. The threat of a large tornado was terrifying to me. I started to watch The Weather Channel a lot, especially during severe weather outbreaks. I learned a lot about thunderstorms and started to do more research at the library. I was ten years old when I decided to become a meteorologist.

Q: You worked as a meteorologist in the Air Force before you joined the NWS. What was your favorite/most challenging part of your job as a meteorologist in the Air Force?

A: My favorite part was writing the aviation forecast that we issued every six hours. I used model data, real-time data (observations, radar and satellite), climatology and knowledge of local effects, to compose accurate forecasts. The most challenging part was issuing weather warnings. It was challenging because the Air Force requires long lead times on their warnings (two hours for severe thunderstorms). Also, the customers (mainly pilots) are never happy about receiving these warnings.

Q: How did you get your start with the NWS?

A: I gained a great deal of training and experience with operational meteorology during my four years with the Air Force. I also had some unique accomplishments, like issuing weather warnings for The White House. This experience made me very competitive for the entry-level position at The National Weather Service. The Florida offices were my top choice for location and I'm very happy working at the Tallahassee office.

Q: What are some of the differences and similarities with your experiences as a meteorologist with the Air Force and with the NWS?

A: There are many similarities. The forecasting and warning processes are mostly the same but with different software. The National Weather Service produces a wider range of products than the Air Force. The Air Force issues site specific weather forecasts and warnings, mostly for aviation purposes. The NWS issues those products and many more, in fields such as hydrology, fire weather and marine weather. The NWS also interacts with the public in order to spread awareness and safety regarding extreme weather.

Q: Do you have any tips for students interested in pursuing operational meteorology?

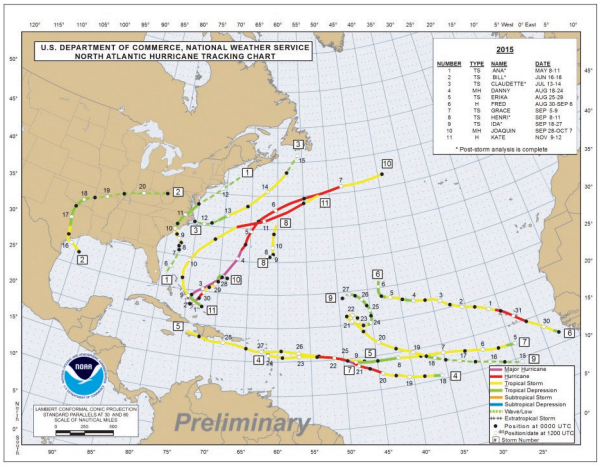
A: Try to get as much experience as you can, even unpaid, because the job market is very competitive. Also, be prepared to move for a job opportunity when starting out.

Q: When you are not working, what do you like to do?

A: I like to workout at the gym and I love to go running outside. I spend a lot of my free time outdoors. I enjoy hiking, camping, swimming and I like to play tennis.

Hurricane Season Recap

By Tim Barry



The 2015 Atlantic Hurricane season officially ended on November 30th and was an average season with 11 named storms. Four of the storms became hurricanes – two of them "major" with sustained winds of 111 mph or higher. Two storms made landfall in the United States, both of which were tropical storms (Ana and Bill). Ana became the earliest land falling tropical cyclone on record in the U.S. coming ashore near Myrtle Beach, South Carolina on May 10th. Bill developed in the far western Gulf of Mexico and made landfall on June 16th at Matagorda Island, Texas. On August 30th, Tropical Storm Fred developed off the west coast of Africa and strengthened very quickly to become a hurricane. Fred was one of the strongest tropical cyclones on record for the extreme eastern Atlantic Ocean. Fred also became the first hurricane to directly impact the Cape Verde Islands since 1892. It has now been 10 years without a land falling hurricane in the state of Florida extending the longest hurricane drought in the state's history. The last hurricane that made landfall in Florida was Hurricane Wilma in October 2005 and was also the last major hurricane, category 3 or higher, to make landfall in the United States.

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NATIONAL WEATHER SERVICE

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Local El Niño Impacts

(Continued from page 1)

El Niño Climatology

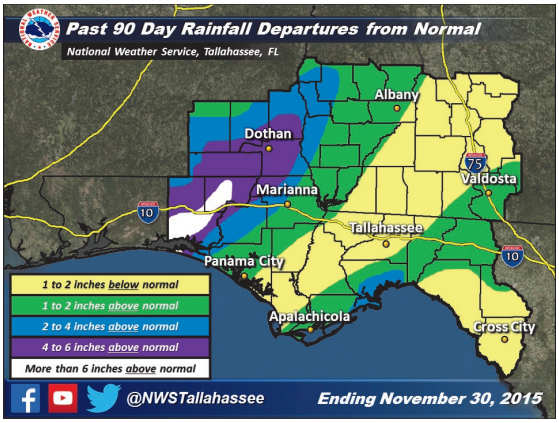
Since 1950, there have been 19 separate El Niño events. Four of these events were measured as strong El Niño events, including this upcoming winter season. Each of the strong events had noteworthy impacts across the region in March and April. Significant river floods, some at record levels, occurred during Spring 1973, 1998, and 2009. Examining these past events provides some idea of the degree of impacts expected with an El Niño event, but much like predicting impacts from an above normal hurricane season forecast, specific details are impossible to identify at long ranges.

Local Impacts

Examining historical flood records for the seven major river basins across the region shows a distinct signal for the timing of significant flood impacts at our river forecast points. 65% of the top 5 flood events across our forecast area have occurred during the months of March and April. The large majority of these events occurred outside the Suwannee River basin in March. Then, the focus for significant flooding largely shifts to the Suwannee River in late March and into April.

What we know now....

Above normal precipitation has occurred across much of the region during the fall, notably so across the Florida Panhandle and Southeast Alabama. This above normal precipitation has stream flows well above normal in the Florida Panhandle and Southeast Alabama and near normal elsewhere. Past moderate and strong El Niño events have resulted in 43 top 5 flood events at river forecast points in all 7 major river basins since 1950. These major river flood basins are: Choctawhatchee, Chattahoochee, Apalachicola, Flint, Ochlockonee, Withlacoochee, and Suwannee Rivers.



What we expect...

Current conditions and expected rainfall suggest at least a moderate flood risk this winter across the region, with the Choctawhatchee River System being especially vulnerable to significant flooding. Later this spring, expected heavy rainfall should create a significant flood risk within the Suwannee River System in late March and April.

Winter Weather in Tallahassee

By Katie Moore

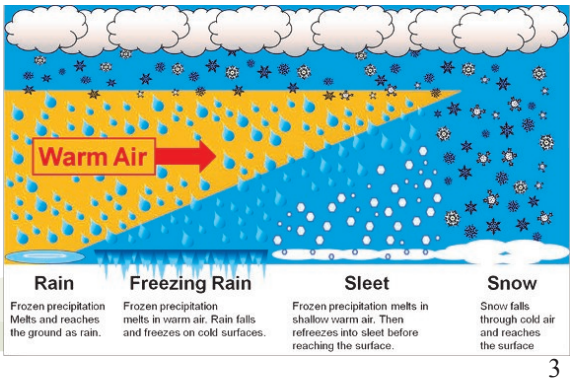
Between 1891 and 2010 there were 33 snow events in Tallahassee, but only 7 of them produced measureable snowfall, making the return period for measureable snowfall once every 17 years. This statistic can be misleading, however, since there were several instances of at least a trace of snowfall in the 50s, 60s, and 70s, but none in the 20s and 30s and only one trace event in the 40s. The last time we received measureable snowfall was December 22-23, 1989, 26 years ago- almost a decade over our average return period.

What does it take to get snow in north Florida? Basically, we need a deep enough layer of cold (≤32°F) air in place, an upper level trough over the northeastern U.S., a 500 mb shortwave moving along the Gulf coast, and a weak wave of low pressure along a quasi-stationary surface front in the southern Gulf of Mexico.

Will El Nino increase the chances of snow this year? The answer is unclear. Of the four measurable snowfall events in Tallahassee since 1955, half of them (Feb 12-13, 1958 and Feb 10, 1973) were during El Nino episodes. However, there have been plenty of El Nino winters that produced no snowfall for the Tallahassee area, including the similarly strong 1997-98 event.

You can learn more on Tallahassee's snow climatology and read a scientific paper on the most favorable weather patterns for snow in our area here: http://www.srh.noaa.gov/tae/?n=snow

Winter weather can also mean sleet and freezing rain. To know what type of precipitation will fall, meteorologists need to know what the vertical temperature profile looks like. If there is a "warm nose", the depth of the warm (≥32° F) air will determine if frozen precipitation melts and if there is time for it to refreeze before reaching the ground (see image at right).



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Doug Sherrick, ESA
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Journeyman Forecasters

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Katie Moore
Claudia (Jeanie) McDermott
Emma Weston

Electronic Technicians

Ron Eimiller
Vacant

Outreach Efforts

By Mark Wool

The outreach program remained active this quarter. In September, lead forecaster Jessica Fieux briefed emergency managers in the Florida Panhandle on the new storm-based warnings that we would begin issuing in October. Katie Moore conducted SKYWARN Spotter training in Gadsden County FL while recognizing the county as *StormReady*. WCM Mark Wool was interviewed on WTXL-TV about National Preparedness Month, while MIC Jane Hollingsworth attended a City of Tallahassee proclamation on the same topic. Mark presented Tallahassee Community College (TCC) with a certificate and sign recognizing them as a *StormReady* community. Mark and forecaster Alex Lamers visited WFXL-TV in Albany, GA for a meet and greet and studio tour. In October, forecaster Tim Barry and intern Jeanie McDermott spoke about weather to four classes of 5th graders at Lafayette Elementary School in Mayo, FL. *StormReady* verification visits occurred at Madison, Taylor and Lowndes Counties, as well as at Valdosta State University (pictured). Spotter training was also conducted in Lowndes County. Jeanie staffed a booth at the FL Dept. of Environmental Protection's Health and Safety Fair in Tallahassee. In November, Mark, Tim and intern Emma Weston were all interviewed live on The Weather Channel concerning a severe weather and flooding threat. Finally, WTXL meteorologist Max Tsaparis interviewed Jessica about Hurricane Kate and filmed Jeanie preparing and launching a weather balloon.

Climate Recap for Autumn

By Tim Barry

The climate for Tallahassee during the 3-month period of September through November 2015 was the warmest on record and follows on the heels of the 4th hottest summer on record. The average temperature this past autumn was 73.8 degrees, 4.5 above normal. The previous warmest autumn was in 1985 with an average temperature of 72.9 degrees. All three months were warmer than normal but November was a whopping 9.0 degrees above average making it the warmest November since records began back in 1892. There were several max temperatures tied or broken with all but one occurring in the month of November. The highest temperature recorded in November was 89 degrees on the 2nd and 4th. This not only established new record high temperatures for those days, but also established a new record high temperature for November in Tallahassee. The highest temperature recorded this past autumn at the Tallahassee Regional Airport was 96 degrees on September 4th and 5th and the lowest was 34 degrees on November 24th. On average, Tallahassee experiences two freezes during the fall season with the average date of the first occurrence on November 16th.

Autumn is climatologically Tallahassee's driest season and autumn 2015 was on pace for one of the driest on record. Rainfall for September measured 3.06", which was 1.63" below normal and this was followed by a very dry October that saw only 0.48" of rain. However, rainfall in November measured 8.33", 238% above the normal of 3.5", which more than made up the deficit from the previous two months. We normally see 11.42" of rain from Sep – Nov, but this year thanks to a very wet November, we received 11.87". The greatest amount of rain that fell in a 24-hour period was 4.21" from November 8th to 9th. Rainfall on the 8th measured 2.55" which set a new record for the day. The previous record was 1.40" set back in 1928. November is one of only three months so far this year that has had a surplus of rainfall. Through the first 11 months of 2015, Tallahassee measured 49.61" of rain, which is a deficit of 5.72".

Climate Outlook for Winter

By Tim Barry

Looking ahead to winter (December through February), the current phase of the El Nino Southern Oscillation (ENSO) cycle across the eastern Pacific is a strong El Nino and this is expected to persist through the winter and possibly extend into the spring of 2016. The impact of El Nino on the southeast U.S. is for wetter and cooler than normal conditions during the winter season. Look for more detailed information on El Nino and its potential impacts on the local area on page one of this newsletter. The latest Climate Prediction Center's outlook for this winter calls for equal chances of experiencing above, below, or normal temperatures and an enhanced chance of experiencing above normal rainfall for the Tallahassee area. The average temperature for Tallahassee during winter is 53.0 degrees and the average rainfall is 13.09".